

Claims

1. Slide bearing material comprising a metallic support layer and a metallic, lead-free bearing metal layer of densely sintered powder particles of tin bronze with bismuth additives, characterized in that the bearing metal layer is formed from a sintering powder which is made from powder particles comprising 9.5 to 11 weight % of tin and 7 to 13 weight % of bismuth and copper, wherein the powder particles have a bulbous shape, differing from a regular spherical shape, but without edges and undercuts.
2. Slide bearing composite material according to claim 1, characterized in that the grain size distribution of the metallic particles has a characteristic grain size of 40 to 75 μm , in particular of 40 to 60 μm .
3. Slide bearing composite material according to claim 1 or 2, characterized in that the grain size distribution of the metallic particles is characterized by a shape parameter β of 1.2 to 2.6.
4. Slide bearing material according to claim 1, 2 or 3, characterized in that the powder particles comprise 7 to 11 weight % of bismuth.
5. Slide bearing material according to claim 4, characterized in that the powder particles comprise 7.5 to 10 weight % of bismuth.
6. Slide bearing material according to any one or more of the preceding claims, characterized in that the powder particles comprise 9.5 to 10.5 weight % of tin.

7. Slide bearing material according to any one or more of the preceding claims, characterized in that the powder particles comprise 0 to 4.0 weight % of zinc.
8. Slide bearing bushing or shell, in particular, a connecting rod bearing bushing or connecting rod bearing shell or a main bearing shell, produced from a slide bearing composite material according to any one or more of the preceding claims.

True Translation of PCT/EP2005/001766 claims as amended on August 11, 2005

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Claims

1. Slide bearing material comprising a metallic support layer and a metallic, lead-free bearing metal layer of densely sintered powder particles of tin bronze with bismuth additives, characterized in that the bearing metal layer is formed from a sintering powder which is made from powder particles consisting essentially of 9.5 to 11 weight % of tin, 7 to 13 weight % of bismuth, 0 to 4.0 weight % of zinc, the rest copper, and possible impurity additives of an overall amount of less than 1 weight %, wherein the powder particles have a bulbous shape, differing from a regular spherical shape, but without edges and undercuts.
2. Slide bearing composite material according to claim 1, characterized in that the grain size distribution of the metallic particles has a characteristic grain size of 40 to 75 μm , in particular of 40 to 60 μm .
3. Slide bearing composite material according to claim 1 or 2, characterized in that the grain size distribution of the metallic particles is characterized by a shape parameter β of 1.2 to 2.6.
4. Slide bearing material according to claim 1, 2 or 3, characterized in that the powder particles comprise 7 to 11 weight % of bismuth.
5. Slide bearing material according to claim 4, characterized in that the powder particles comprise 7.5 to 10 weight % of bismuth.

6. Slide bearing material according to any one or more of the preceding claims, characterized in that the powder particles comprise 9.5 to 10.5 weight % of tin.
7. Slide bearing bushing or shell, in particular, a connecting rod bearing bushing or connecting rod bearing shell or a main bearing shell, produced from a slide bearing composite material according to any one or more of the preceding claims.